

Amendments to the Specification:

On page 3, after the heading "Brief Description of the Drawings", please replace the first three paragraphs with the following:

Figure 1. Surface-initiated polymerization.

Figure 1A. Molecular structure of initiator (1), diluent thiol (2), monomer (OEGMA), and a tethered "bottle" brush of poly(OEGMA) grown from a mixed SAM of (1) and (2).

Figure 1B. Ellipsometric thickness of the poly(OEGMA) brush as a function of polymerization time. Polymer brushes were grown from the surface of a pure SAM of (1), and exhibit linear growth kinetics for a polymerization time of upto 120 min. The sd for each data point is $< 3 \text{ \AA}$ ($n=3$).

Figure 1C. Poly(OEGMA) brushes were grown from mixed SAMs of (1) and (2) for a polymerization time of 40 min, and a saturation point in thickness was observed at a bulk mole fraction of (1) of 0.6 (χ_1); sd for each data point is $< 4 \text{ \AA}$.

Figure 2. Surface plasmon resonance (SPR). SPR chips were coated with a poly(OEGMA) brush grown from a pure SAM of (1) for a polymerization time of 40 min: (A) after priming with PBS buffer for 10 min (region I), 10% FBS, 1 mg ml⁻¹ fibronectin, or 100% FBS solution were injected over the surface (at 10 min: indicated by II) for 20 min (region III), followed by a 10 min rinse with PBS (region IV).

Figure 3. Patterns of poly(OEGMA) brush and attached cells.

Figure 3A. SEM image of a patterned poly(OEGMA) brush on gold that was fabricated by μ CP of (1) followed by SIATRP (160 min) of OEGMA.

Figure 3B. 3-dimensional image of a poly(OEGMA) nanoarray over a $5 \times 5 \text{ \mu m}^2$ area grown from the initiator thiol (1) patterned with DPN on gold.

Figure 3C. The line profile of (B) shows that the poly(OEGMA) nanostructures have a diameter of $\sim 90 \text{ nm}$ and a height of $\sim 14 \text{ nm}$.

Figures 3D-3E. NIH 3T3 cells seeded onto a pattern of adsorbed fibronectin (20 \mu m circles (D) and 40 \mu m stripes (E)) separated by cell-resistant regions of poly(OEGMA) brushes fabricated by SI-ATRP on gold (40 \mu m (D) and (E)).